

Figure :1 Perspective View

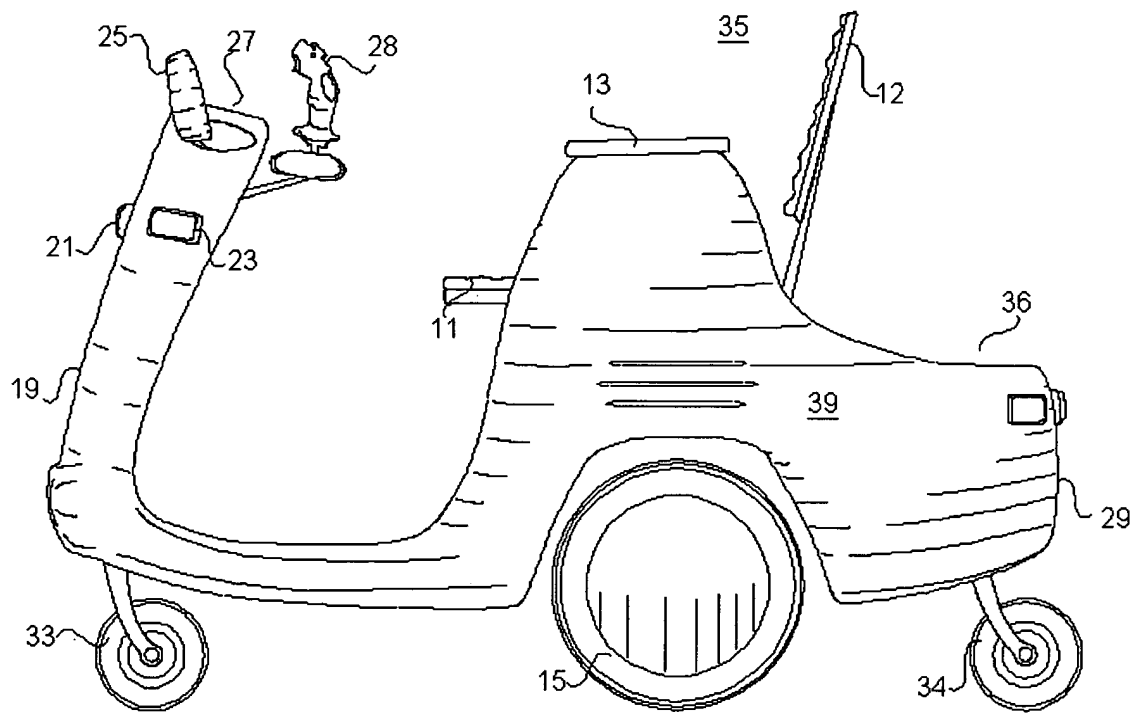


Figure 2: Side View

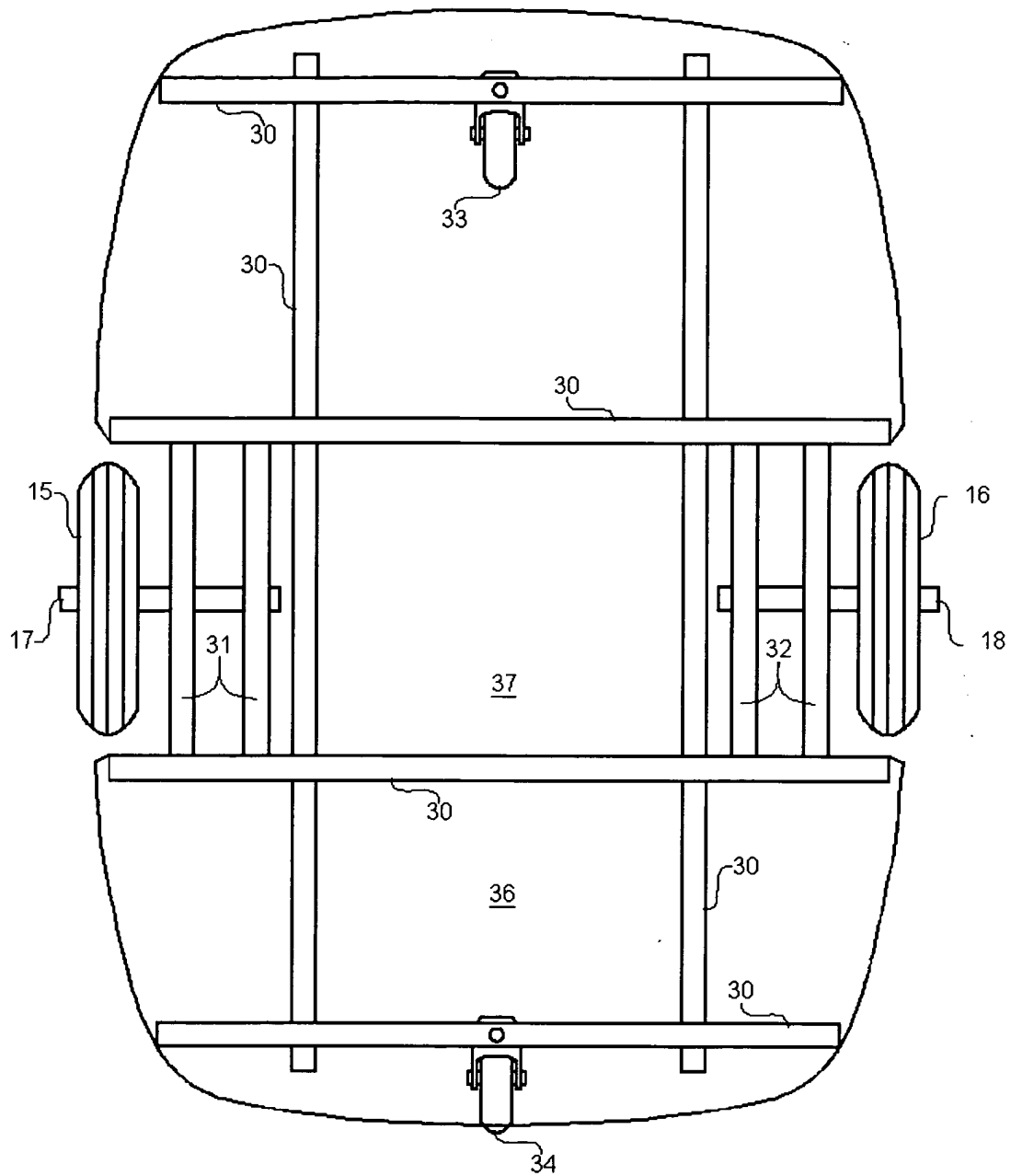


Figure 3 : Plan view of the chassis frame

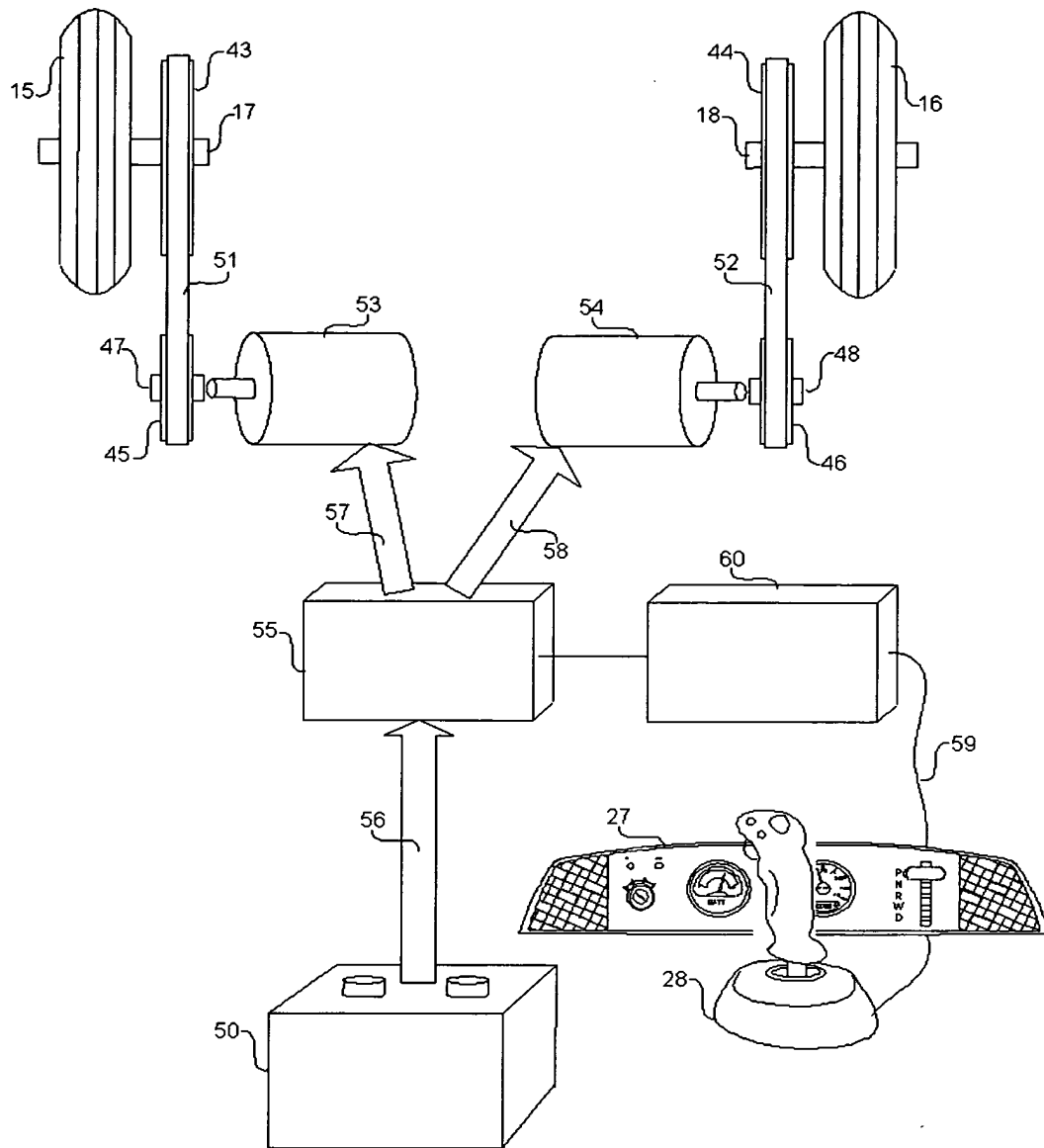


Figure 4 : The drive system

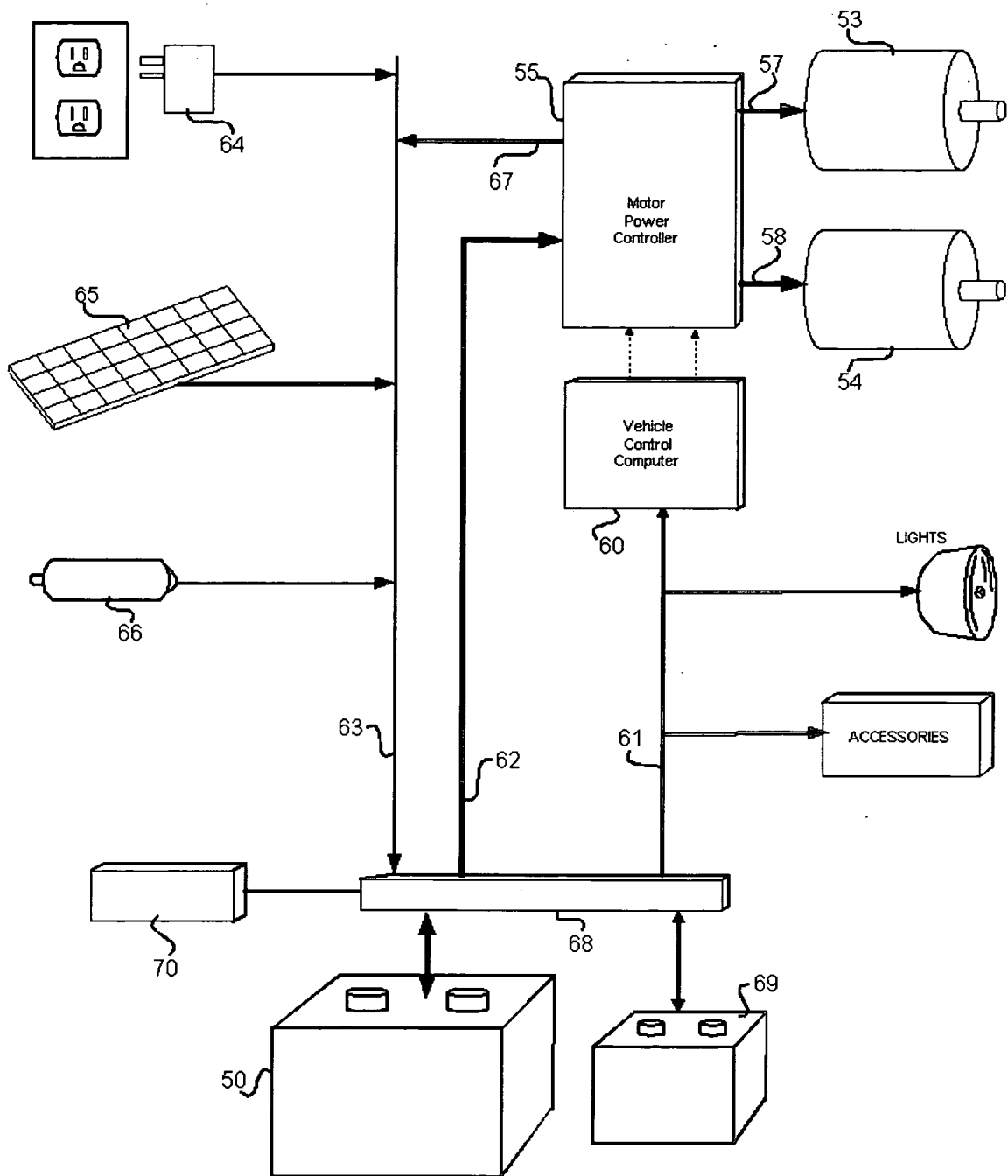
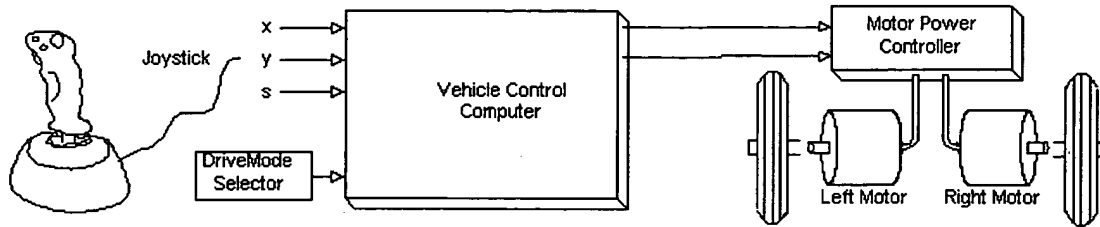


Figure 5 : Electrical System



INPUT				OUTPUT			
Drive Mode	Joystick			NOTES	L to R Ratio	Left Motor	Right Motor
	x	y	s				
Park	I	I	I	Wheels Locked	I	0	0
Neutral	I	I	I	Wheels unlocked	I	I	I
Drive Fwd	0	0	I	No Motion	-	0	0
	+X	0	I	Straightline Forward Motion	1:1	F	F
	+X	+y	I	Turn Right in Motion	1<1	F	F
	+X	-Y	I	Turn Left in Motion	<1:1	F	F
Reverse	-X	I	I	Brake applied, Stop	1:1	0	0
	0	0	I	No Motion	-	0	0
	-X	0	I	Straightline Reverse Motion	1:1	R	R
	-X	+y	I	Turn Right in Reverse	1<1	R	R
	-X	-Y	I	Turn Left in Reverse	<1:1	R	R
	+X	I	I	Brake applied, Stop	1:1	0	0
Weave: Fwd	0	0	I	No Motion	-	0	0
	+X	0	I	Straightline Forward Motion	1:1	F	F
	+X	+y	I	Turn Right in Forward	1<1	F	F
	+X	-Y	I	Turn Left in Forward	<1:1	F	F
	-X	0	I	Straightline Reverse	1:1	R	R
	-X	+y	I	Turn Right in Reverse	1<1	R	R
Rev	-X	-Y	I	Turn Left in Reverse	<1:1	R	R
	0	0	+S	Spin Right on the spot	1<1	F	R
Spin L	0	0	-S	Spin Left on the spot	<1:1	R	F
	0	0	0	If released, forced gentle stop	-	0	0

- Comments:
1. "I" denotes irrelevant, x, y, s are signed values from Joystick, "F" denotes Forward, "R" denotes Reverse
 2. In Reverse Mode, handling speed is reduced for safety. In Weave Mode Speed is further reduced.
 3. Weave:Spin can be also used in combination of Forward, Reverse motion

Figure 6 : Joystick Motion control relations

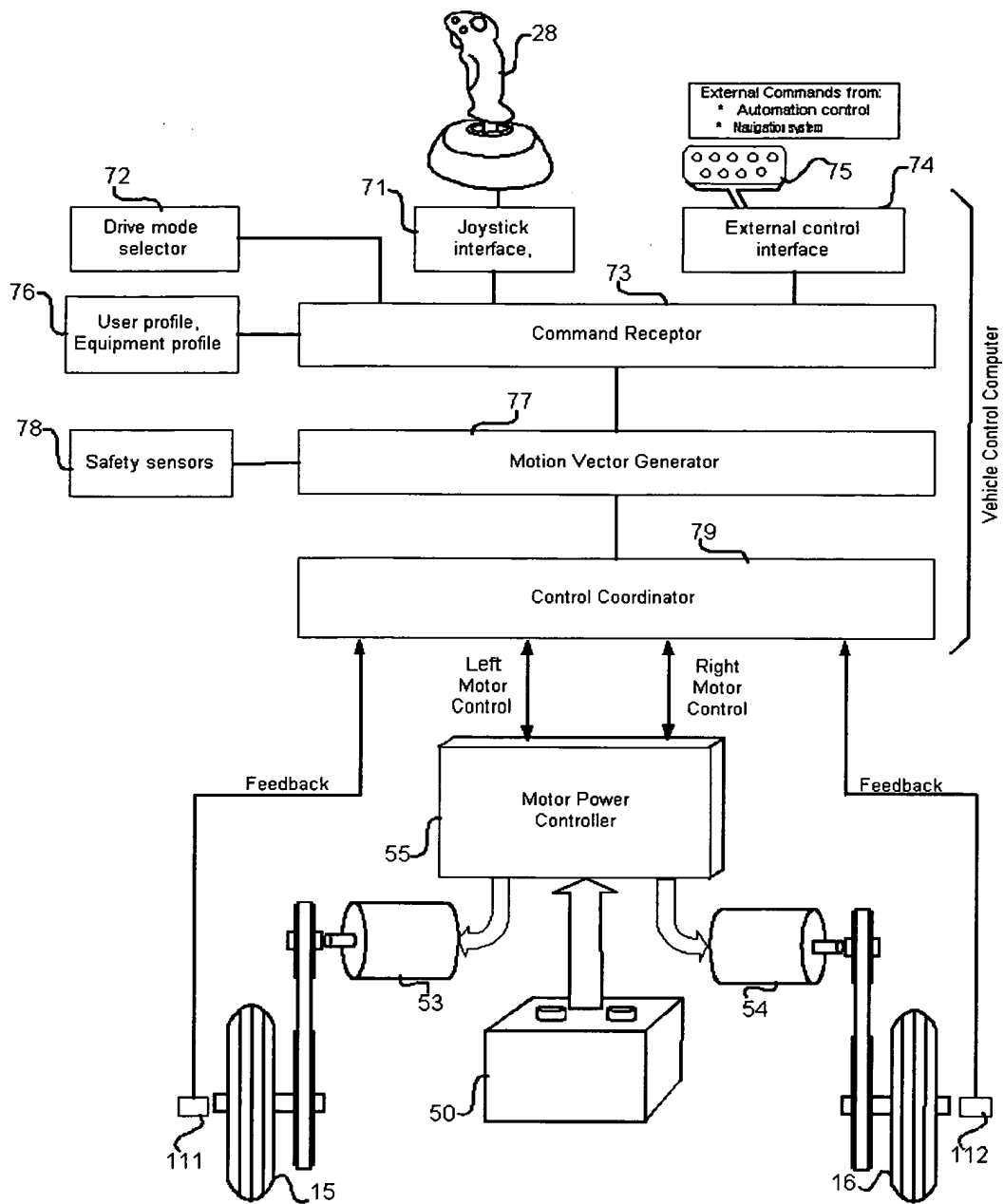


Figure 7 : Motion control block in operation

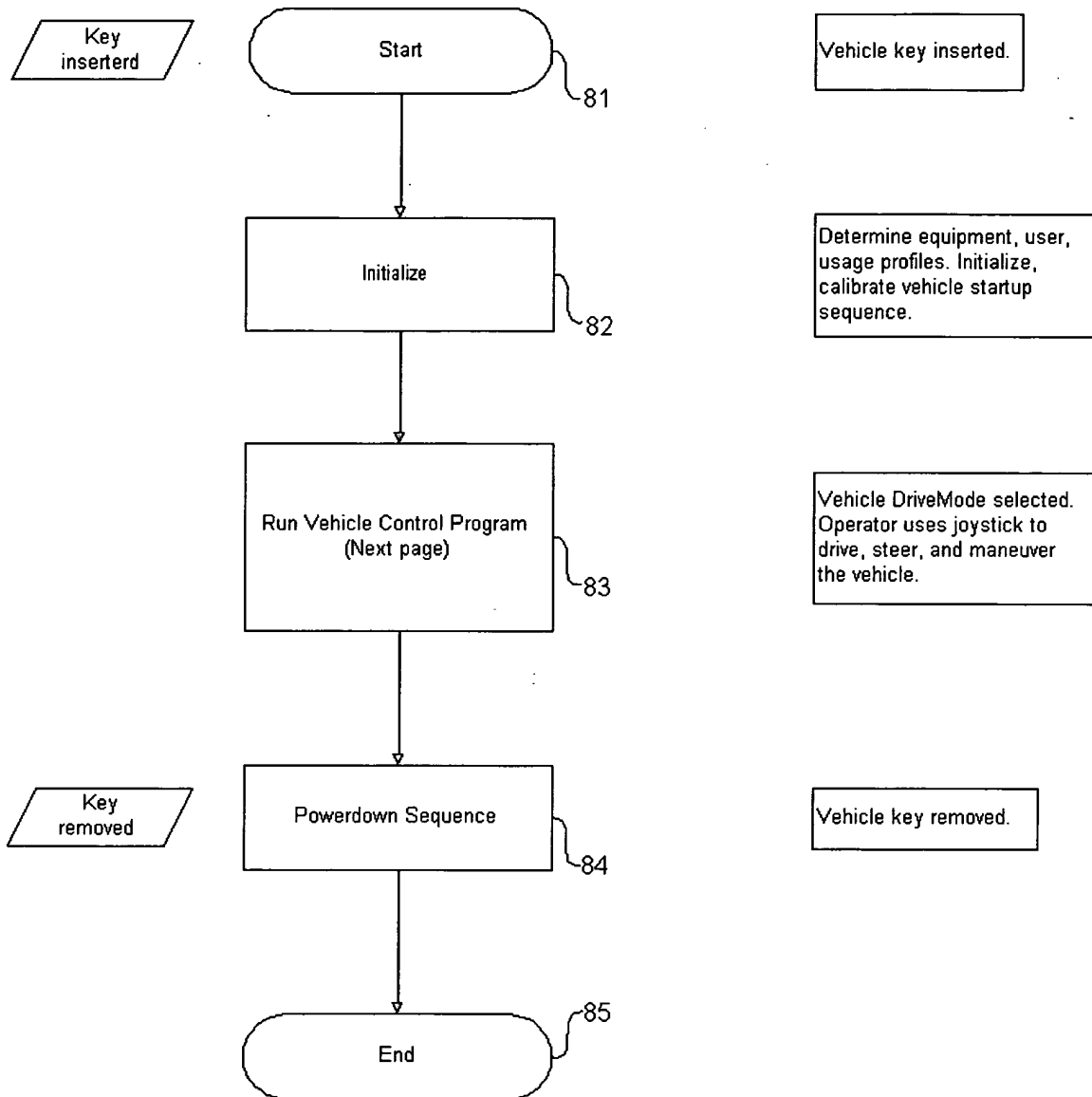


Figure 8 : Driver Operation Sequence

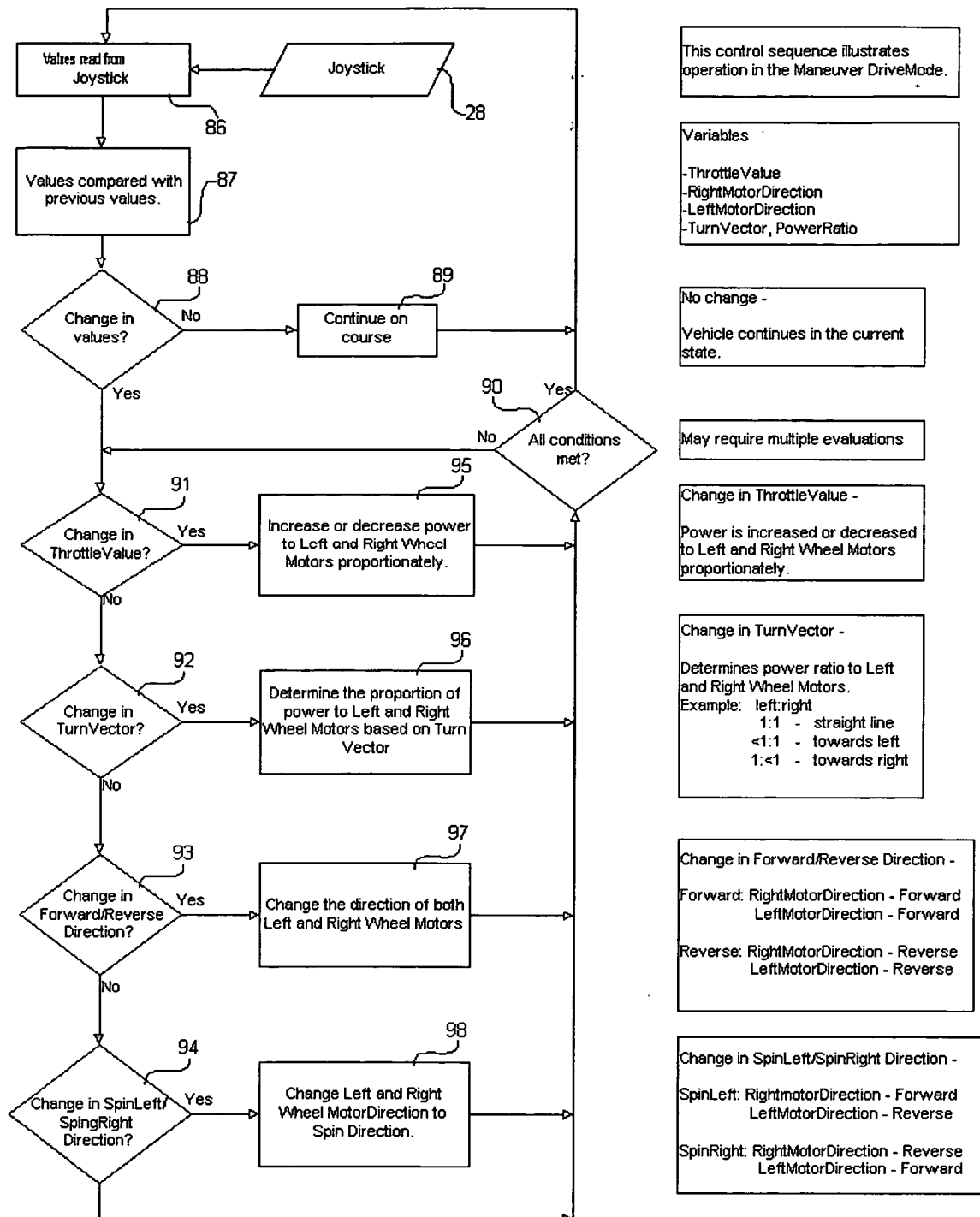


Figure 9 : Internal control flow in operation

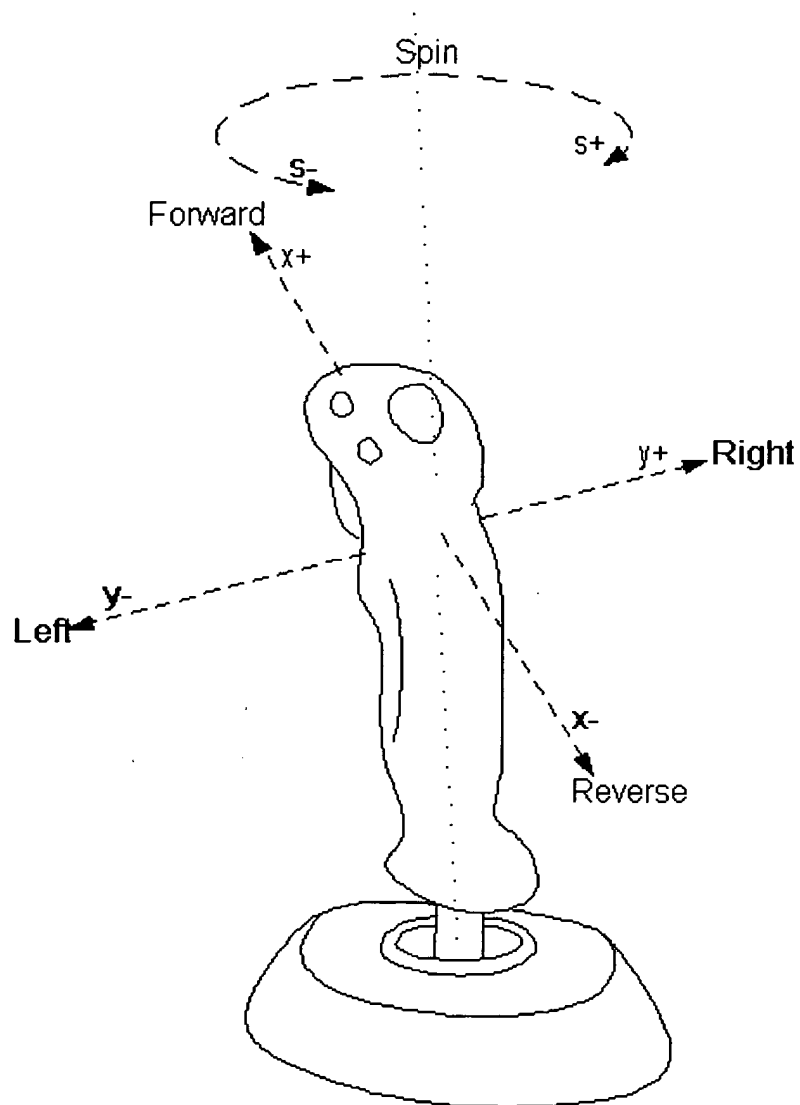


Figure 10 : Joystick motion control reference axes

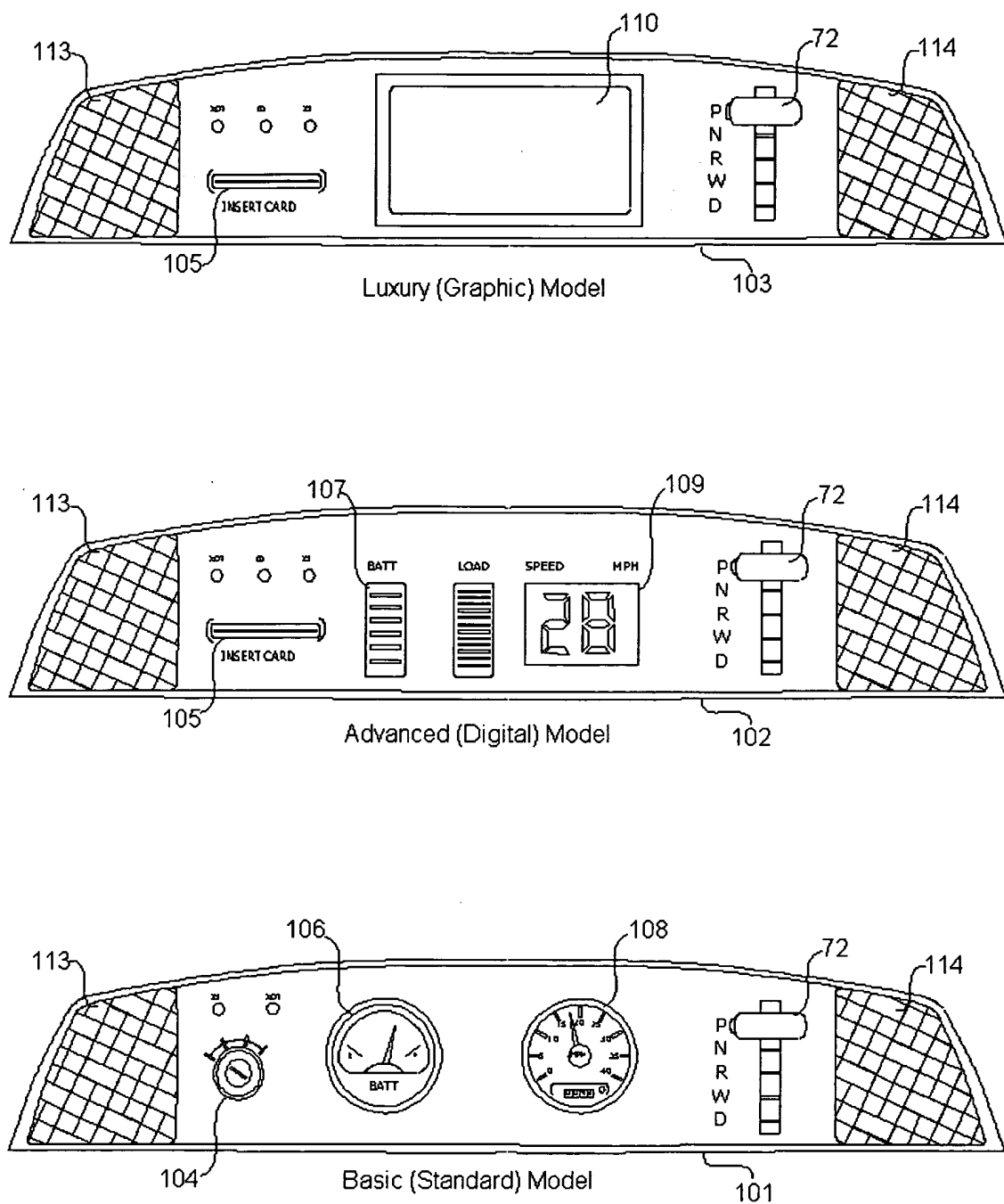


Figure 11 : Dashboard designs

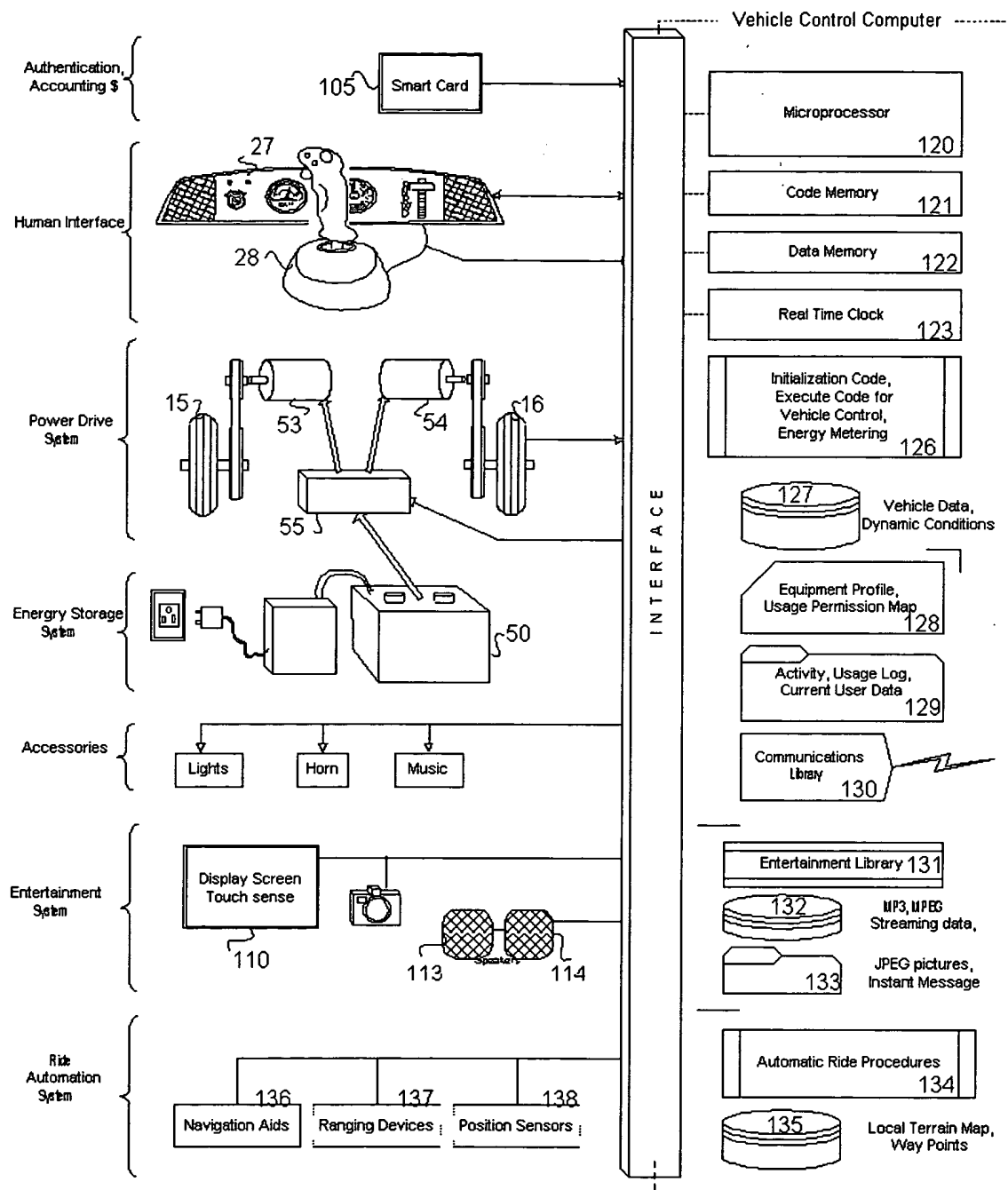


Figure 12 : Vehicle Control Computer

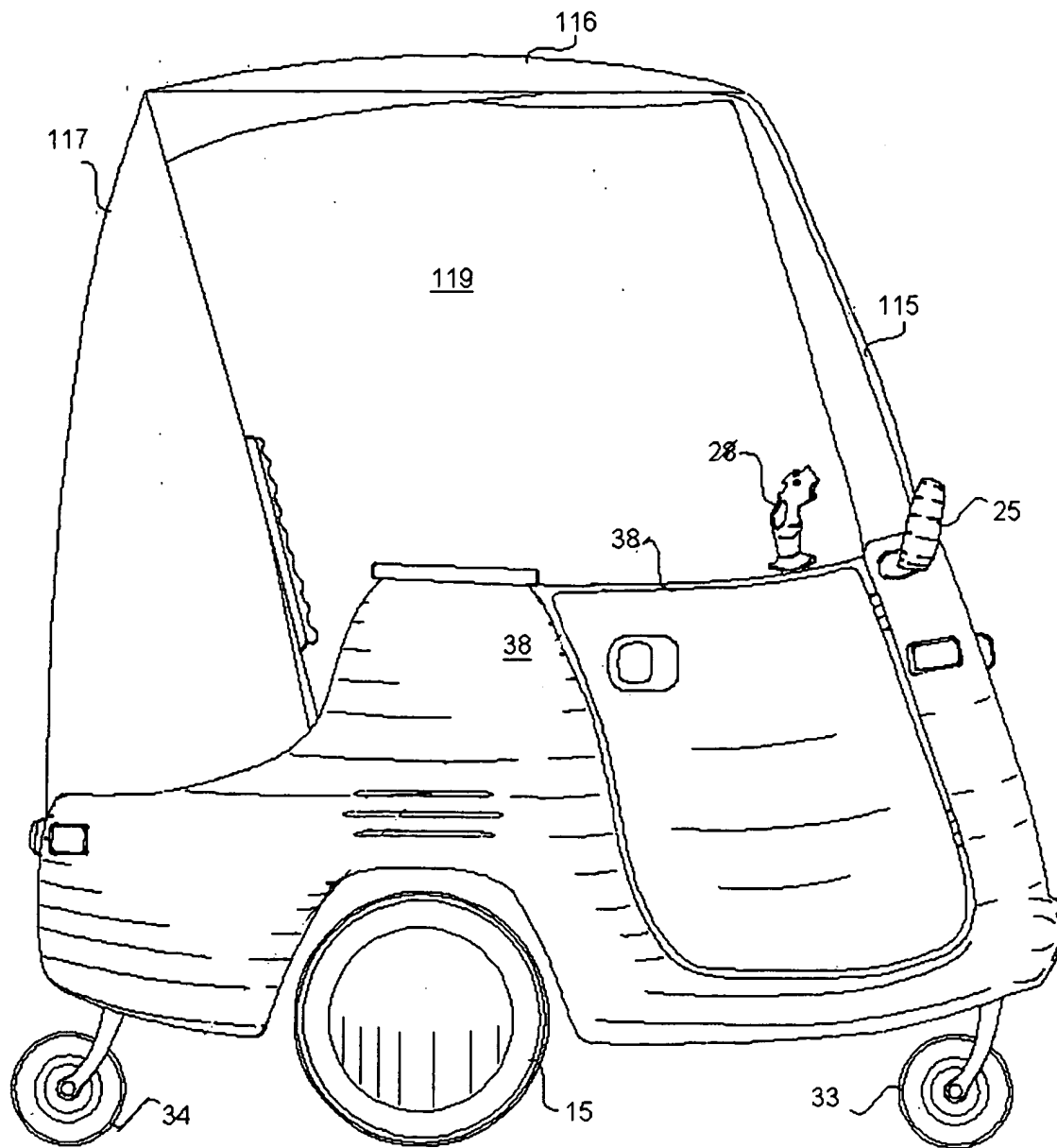


Figure 13 : Side View of an embodiment with hood.